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1 OF 12

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6. Printing service (reference only):
PRINT CENTER

Color:
BLACK GRAPHICS ON WHITE BACKGROUND

Material:
20# BOND

Finish:
8.5 IN x 11 IN BOOKLET

stryker® 269-323-7700 800-253-3210

Orig.	Date	Approvals	Date	Mktg.	Date	Title
Greg Cislek	4/24/08		4/25/08	S/S. MERLICK	3/28/08	INSTRUCTIONS FOR USE
Q.A.	Date	Eng.	Date	Reg. Affairs	Date	Part No. / Rev-
S/N. HOGAN	3/28/08	S/S. RAMSOVEZ	3/28/08		4/25/08	0702-014-700 / B

Neptune® 2

Waste Management System

Site Preparation and Docking Station Installation

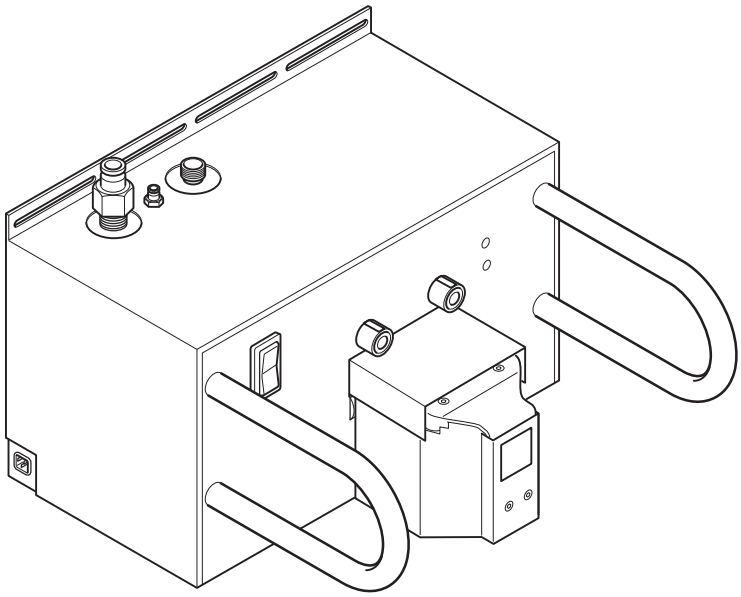
120 V Docking Station
REF 0702-014-000

230 V Docking Station
REF 0702-015-000

Instructions For Use

R_x ONLY

CE 0197



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Important Information

The words WARNING, CAUTION and NOTE have special meaning and should be reviewed.

WARNING: Disregarding WARNING information may compromise the safety of the patient and/or health care staff and may result in injury.

CAUTION: Disregarding CAUTION information may compromise product reliability and may result in damage.

NOTE: NOTE information supplements and/or clarifies procedural information.

A triangle with an exclamation point alerts the health care professional to read and understand the accompanying instructions, especially the operating, maintenance, and safety information.

For Use With

The Stryker Docking Station (docker) is for use with the Neptune 2 Waste Management System, specifically the Neptune 2 Rover (rover).

Indications For Use

The Neptune Waste Management System is intended to be used in the operating room, pathology, surgical centers, and doctor's offices to collect and dispose of surgical fluid waste as well as collect smoke generated from electrocautery or laser devices.

Description

The docker is a wall-mounted component of the Neptune 2 Waste Management System. The rover interfaces with the docker to empty and rinse the rover's canister(s) of fluid waste. A detergent dispenser is connected to the docker to release Stryker-approved detergent into the rover's canister system automatically.

The docker is installed in a utility closet or disposal area with access to electrical power, a water supply, and a fluid waste drain. The health care facility is responsible for the preparation of the installation site and the availability of utilities.

User/Patient Safety*

WARNINGS:

- Only trained and experienced health care professionals should use this equipment. Before using any system component, or any component compatible with this system, read and understand the instructions. Pay special attention to WARNING information. Become familiar with the system components prior to use.
- Upon initial receipt and before each use, operate the equipment and inspect each component for damage. DO NOT use any component if damage is apparent.
- Take special precautions regarding electromagnetic compatibility (EMC) when using electrical equipment like this system. Install and place this system into service according to the EMC information contained in this manual. Portable and mobile RF communications equipment can affect the function of this system.
- DO NOT use this equipment in the presence of a mixture consisting of a flammable anesthetic and air or oxygen or nitrous oxide.
- Only trained and experienced health care professionals should install and maintain this equipment.
- The Bloodborne Pathogens Standard provided by the United States Occupational Safety and Health Association (US OSHA) requires all workers with exposure to "potentially infectious materials" wear the correct personal protection equipment and be offered immunization against hepatitis B. As an additional precaution, these workers should receive tetanus immunization and boosters when required.

Accessory/Disposable Information*

WARNING: Use only Stryker-approved components and detergent, unless otherwise specified. Using other components may result in increased electromagnetic emissions or decreased electromagnetic immunity of the system. DO NOT modify any component or accessory.

Description	REF
Neptune Docking Detergent	0700-001-026
Neptune Detergent Mounting Kit	0700-005-026

* If you need more information or a complete list of accessory information, contact your Stryker sales representative or call Stryker Neptune customer service at 1-800-550-7836. Outside the US, contact your nearest Stryker subsidiary.

Features

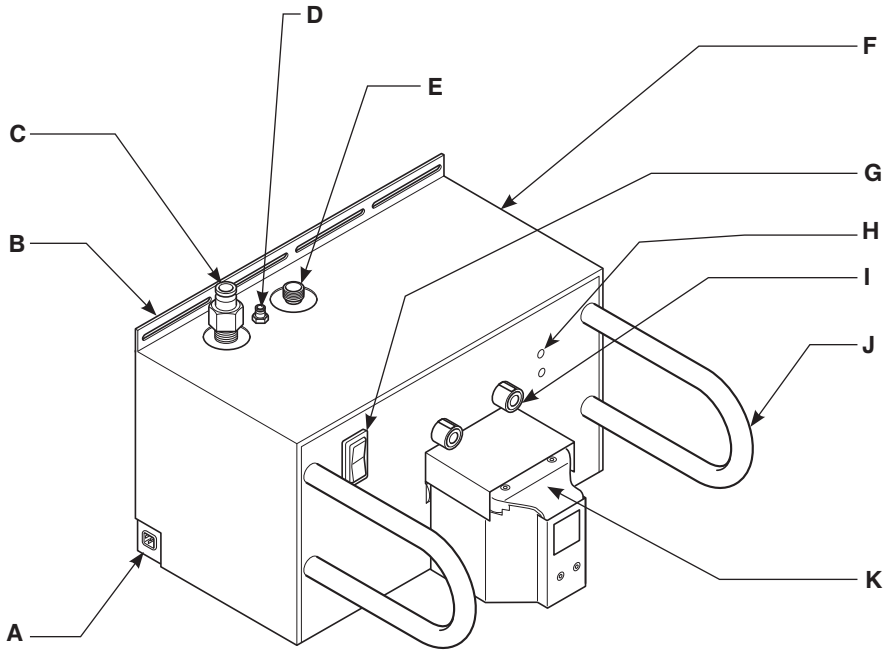
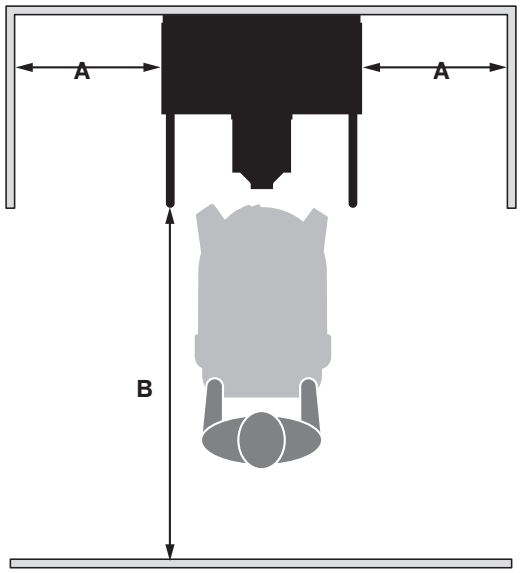


Figure 1 Docking Station Feature Locations

A	**Power Cord Receptacle** - Allows for the connection of facility power using the docker power cord.
B	**Mounting Bracket** - Using mounting hardware, the bracket allows for the permanent installation of the docker to a flat wall surface.
C	**Waste Outlet Port** - Allows for the disposal of fluid waste from the rover when the rover is connected to the docker.
D	**Detergent Inlet Port** - Allows detergent to enter the rover's fluid collection system to facilitate cleaning when the rover is connected to the docker.
E	**Water Inlet Port** - Allows fresh water to enter the rover when the rover is connected to the docker.
F	**Ethernet and USB Ports** - These ports are located on the side panel (not visible in illustration) and may be accessed by removing a cover. Allows for Stryker-approved software upgrades and maintenance.
G	**Power Switch** - The toggle switch allows for the application or removal of facility power.
H	**Infrared Communication Windows (two)** - Allows infrared data transfer between the docker and rover. Data transfer is necessary during the docking procedure.
I	**Magnets (two)** - Provides for the automatic physical alignment and connection of the rover to the docker.
J	**Guides (two)** - Facilitates the alignment of the rover to the docker.
K	**Power and Fluid Connectors** - When the rover is connected to the docker, the rover receives power through a power connector from the docker. Two fluid connectors are also present. One connector allows fresh water to enter the rover. The other connector provides for the disposal of waste water from the rover. The fluid connectors are located under a spring-loaded cover.

NOTE: See the *Specifications* section for electrical power, water, and drainage requirements. See figures 1 and 2 to ensure the installation area meets utility and space requirements.



A	Side Clearance	20 inches [50.8 cm]
B	Front Clearance	48 inches [121.9 cm]

Figure 2 Minimum Space Requirements

Instructions

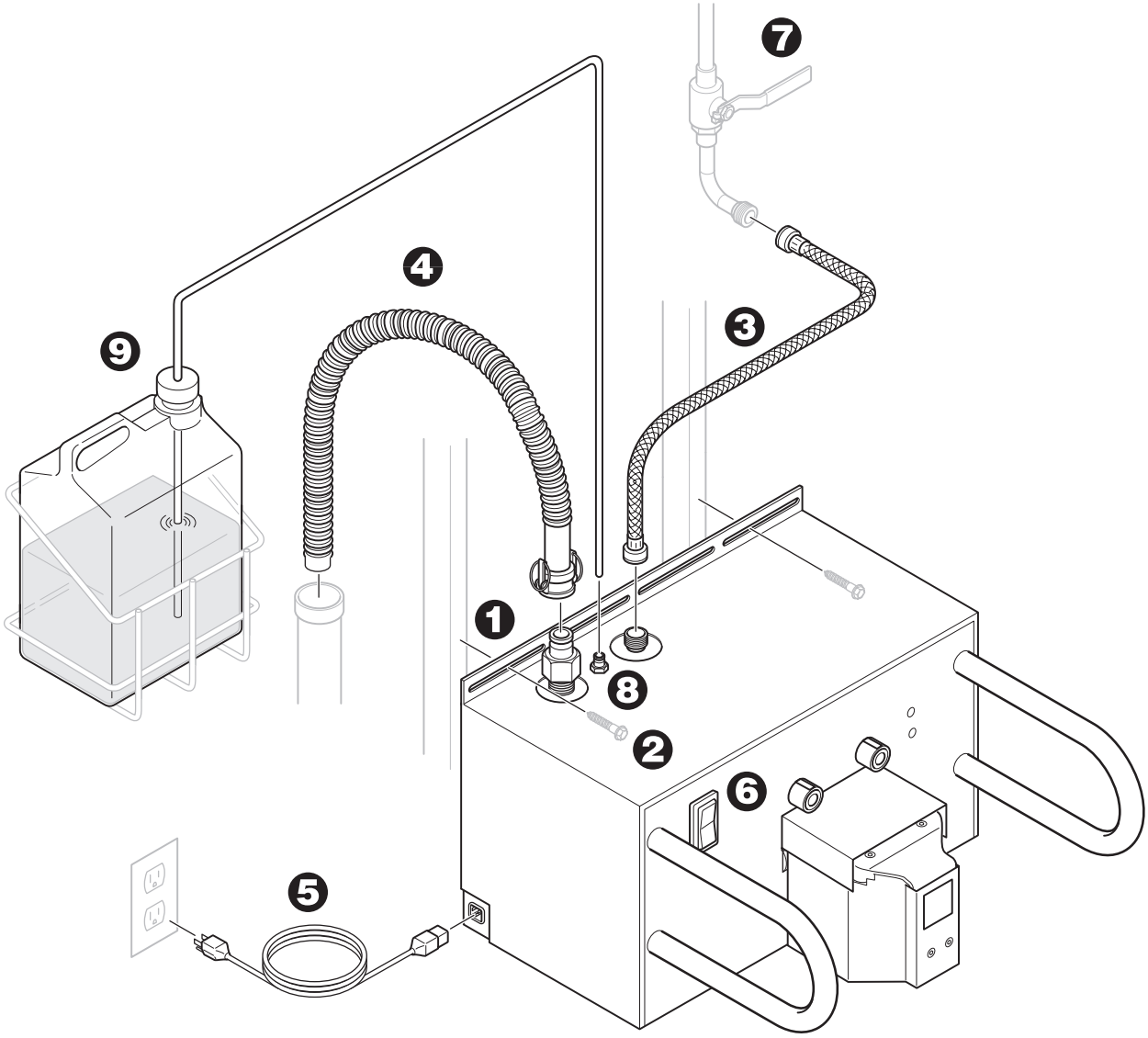
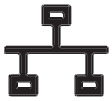


Figure 3 Docking Station Installation

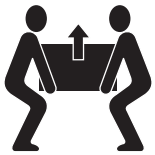
Symbol Definitions

							
POWER ON	POWER OFF	UNIVERSAL SERIAL BUS (USB) PORT	ETHERNET PORT	PINCH POINT KEEP HANDS OUT	WASTE OUTLET PORT	DETERGENT INLET PORT	WATER INLET PORT

Instructions

To Install the Docker

WARNING: ALWAYS have more than one person unpack and lift the docker off the shipping pallet.



1. Place the docker against a wall with access to electrical power, water, and fluid waste disposal.

NOTE: To ensure the docker is mounted securely to the wall, align the mounting hardware with the wall studs.

2. Install the mounting screws through the mounting bracket of the docker and secure the docker to the wall.

NOTES:

- The docker is equipped with an internal anti-siphon device. See *Specifications* section for details. If the docker anti-siphon device does not meet local code requirements, obtain and install an anti-siphon device that will meet the necessary requirements. Install the device near the dedicated water shutoff valve of the facility water supply.
- Ensure the plumbing configuration is NOT susceptible to water hammer conditions.

WARNING: Ensure the pressure and temperature values of the facility water supply are within the required specified ranges. See *Specifications* section for details.

3. Connect the water inlet hose between the water inlet port of the docker and the facility water supply.

WARNING: Follow the current local regulations governing biohazard waste to safely handle and dispose of surgical fluid waste.

4. Connect the waste outlet hose between the waste outlet port of the docker and the drain emptying into the facility waste disposal system.

NOTE: A properly connected waste outlet hose will minimize the escape of noxious fumes and odors (see figure 3).

5. Connect the power cord between the electrical receptacle of the docker and the facility electrical power source.
6. Press the power switch ON. Observe the power switch illuminate.

NOTE: Before docking the rover, always allow the docker to warm up for at least 60 seconds after applying initial power to the docker.

7. Open the facility water valve to allow water to flow to the docker. Inspect the water supply connections for any leaks. Repair any plumbing to stop leakage if necessary.
8. Connect the detergent inlet tube to the detergent inlet port of the docking station.
9. To connect the detergent, see the label instructions on the Stryker-approved detergent REF 0700-001-026.

To Replace the Detergent Bottle

1. Remove the detergent inlet tube from the empty bottle. Follow the current local regulations governing environmental protection to recycle or dispose of the bottle.
2. To connect the detergent, see the label instructions on the Stryker-approved detergent REF 0700-001-026.

Cleaning Recommendations

CAUTION: DO NOT use glutaraldehyde or similar chemical cleaners on the docker.

1. Wipe the external surfaces of the docker with a soft cloth dampened with a non-abrasive, hospital disinfectant.
2. Thoroughly wipe the infrared communication windows to ensure the rover and docker can communicate and function properly.

Storage and Handling

To ensure the longevity, performance, and safety of this equipment, use the original packaging when storing or transporting this equipment. See *Specifications*, particularly the storage and transportation information, before transporting this equipment.

Periodic Maintenance

INTERVAL	ACTIVITY
As required	Inspect the plumbing connections and hoses for leaks. Repair any plumbing to stop leakage as required. Replace leaking hoses as required.
As required	Check the level of the detergent in the dispensing bottle. Replace the bottle of detergent as required.

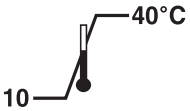
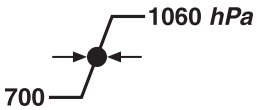
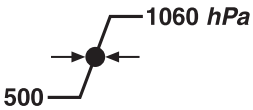
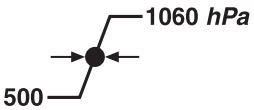
Troubleshooting Guide*

PROBLEM	CAUSE	ACTION
Power switch does not illuminate in the ON position.	Power cord is not connected securely.	Connect the power cord securely.
Water inlet hose is leaking.	Water inlet hose is damaged.	Contact Stryker.*
Waste outlet hose is leaking.	Waste outlet hose is damaged.	Contact Stryker.*
Sporadic electrical interference is experienced.	Electrical noise is present.	Turn off all the electrical equipment in the room. Relocate the electrical equipment to maximize the distance between the equipment. Increase spatial distance. Plug equipment into different outlets.

*DO NOT service this equipment. If you require service, contact your Stryker sales representative or call Stryker Neptune customer service at 1-800-550-7836. Outside the US, contact your nearest Stryker subsidiary.

Specifications*

Model:	Neptune 2 Docking Station	
REF:	0702-014-000	0702-015-000
Electrical Power Requirements:	120 V ~, 60 Hz, 3.0 A	230 V ~, 50 Hz, 3.0 A
	15 A receptacle connection	10 A [minimum] receptacle connection
Size:	23 inch [58.4 cm] width	
	16 inch [40.6 cm] height	
	23 inch [58.4 mm] depth	
Weight:	95 lbs. [43 kg]	
Equipment Type:	Class I	
Enclosure Protection:	IPX0 Ordinary Equipment	
Infrared Communication Windows:		
Protective Earth Ground:		
Approval:		CSA International CAN/CSA-C22.2 No. 601.1 M90: 2003 BS EN 60601-1: 1997 UL 60601-1: 2003
Water Requirements:		
Pressure Range	50 to 120 psi [2,586 to 6,206 mmHg, 345 kPa to 827 kPa]	
Anti-siphon Device	ANSI/NSF-61	
Temperature	40 to 110 ˚F [4.4 to 43.3 ˚C]	
Connection	Source accepts garden hose fitting and has dedicated shutoff valve	
Quality	Potable tap water	
Usage	Nine gallons [34 liters] per rinse cycle at default settings on standard cycle; water usage fluctuates due to selected cycle and facility flow.	
Drainage Requirements:	Floor drain or permanent service connection per local plumbing codes; 8 feet [2.44 m] connection distance (maximum)	
Water Inlet Hose	0.75 inch [1.9 cm] diameter	
	6 feet [1.83 m] length	
Waste Outlet Hose	1.0 inch [25.4 cm] diameter	
	6 feet [1.83 m] length	
Detergent Inlet Tube	0.25 inch [0.635 cm] outer diameter	
	4 feet [1.2 m] length	

Environmental Conditions:	**Operation**	**Storage and Transportation (before initial use)**	**Storage and Transportation (after initial use)**
Temperature			
Relative Humidity			
Atmospheric Pressure			

*Specifications are approximate and may vary from unit to unit or by power supply fluctuations.

Specifications

Guidance and manufacturer's declaration - electromagnetic emissions		
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in the electromagnetic environment specified below. The customer or the user of the Neptune 2 Docker should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - guidance**
RF emissions CISPR 11	Group 1	The Neptune 2 Docker uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The Neptune 2 Docker is suitable for use in all establishments other than domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration - electromagnetic immunity			
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in the electromagnetic environment specified below. The customer or the user of the Neptune 2 Docker should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms 150 kHz to 80 MHz	Portable and mobile RF communications equipment should be used no closer to any part of the Neptune 2 Docker, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d=1.67\sqrt{P}$ $d=1.67\sqrt{P}$ 80 MHz to 800 MHz $d=2.33\sqrt{P}$ 800 MHz to 2.5 GHz Where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in meters (m) Interference may occur in the vicinity of equipment marked with the following symbol:
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m 80 MHz to 2.5 GHz	

NOTE 1: At 80 MHz and 800 MHz the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Specifications

Guidance and manufacturer's declaration - electromagnetic immunity			
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in the electromagnetic environment specified below. The customer or the user of the Neptune 2 Docker should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±2, 4, 6 kV contact ±2, 4, 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst IEC 61000-4-4	±2 kV for power supply lines ±1kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0,5 cycle	95% Reduction (10 ms)	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Neptune 2 Docker requires continued operation during power mains interruptions, it is recommended that the Neptune 2 Docker be powered from an uninterruptible power supply or a battery.
	40% U_T (60% dip in U_T) for 5 cycles	60% Reduction (100 ms)	
	70% U_T (30% dip in U_T) for 25 cycles	30% Reduction (500 ms)	
	<5% U_T (>95% dip in U_T) for 5 sec	95% Reduction (5 s)	
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m @ 50 Hz CRT 1 A/m	Power frequency magnetic fields should be at levels characteristics of a typical location in a typical commercial or hospital environment.

NOTE: U_T is the a.c. mains voltage prior to application of the test level.

Specifications

Recommended separation distances between portable and mobile RF communications equipment and the Neptune 2 Docker			
The Neptune 2 Dockers, REF 0702-014-000 and REF 0702-015-000, are intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Neptune 2 Docker can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Neptune 2 Docker as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter m**		
	150 kHz to 80 MHz $d = [\frac{3,5}{V_1}]\sqrt{P}$	80 MHz to 800 MHz $d = [\frac{3,5}{E_1}]\sqrt{P}$	800 MHz to 2.5 GHz $d = [\frac{7}{E_1}]\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.70	3.70	7.37
100	11.70	11.70	23.30

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

ES, DE, FR, IT, NL	0702-015-717
JA, ZH, KO	0702-015-720
SV, DA, FI, PT, NO	0702-015-730
PL, EL	0702-015-750

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